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S. O. S.
Save Old Sols

60K Modification Kit and Personality Module Replacement Information Sheet

This kit will enable you to configure your Sol System with more memory by moving the Personality Module to the upper end of the memory address space. The standard Sol Personality Module, whether for Tape or Disk systems occupies the address space from C000H to C7FFH, while the on-board scratch RAM on the main Sol PC board, which includes the VDM display RAM is addressed at C800H thru CFFFH. This kit allows you to readdress the on-board RAM to F800H thru FFFFH, and provides a compatible relocated version of SOLOS, with origin at F000H. When SOLOS is relocated, you can add up to 12K of RAM in the address space from C000H thru EFFFH, thus increasing your contiguous system size to a maximum of 60K.

Make the simple modifications to your Sol and to your present Personality Module as described in the accompanying instruction sheets.

1) Connect the 74LS136 chip supplied (U22) to pins A1 and A2 of the Personality Module connector as described on the two page installation diagram, "Sol - PC modifications". This connection provides for proper addressing of the SOS Module, by giving the Personality Module card control over the high order address bit. The SOS Module will set it to 1.

2) Break the traces on your old Personality Module, as described on the one page installation diagram, "Personality Module Modification". This enables your old Personality Module to set the high bit of the address lines to 0.

The selection of address space is automatically taken care of by the Module card itself. Your old card will set the machine to C000H and the new card will set it to F000H. To switch back and forth between your old and new configurations, just power off the Sol, remove or insert extra memory and insert the desired Personality Module.

The version of Solos supplied in your Personality Module Replacement corresponds to Solos Version 1.3 (Release of 03-27-77), except that the Origin has been set to F000H, and a few minor corrections have been made to the code to reflect this. All of the external and internal subroutine entry points have been maintained in analagous locations, Any software which you have which references Solos will have to be modified by changing any references from CxxxH to FxxxH in your code. Note that any program which manipulates the screen buffer directly will have to be modified, as the display RAM is moved from CC00H to FC00H by the SOS.

If you have a disk operating system, you will have to reconfigure it. Most disk operating system have a console section which you must change to reflect the new origin, and all jumps to SOUT, AOUT, SINP and AINP must be

modified to F019H, F01CH, F01FH and F01FH respectively from their old values of C019H, C01CH, C01FH and C01FH.

REMEMBER: Your existing software will have to be modified to reflect the new location of the keyboard and VDM routines and of the VDM screen memory.

The standard version of PTDOS will not work with this new Personality Module.

Remember to set the memory address switches on additional memory boards so that there is NO memory in the address range F000H through FFFFH. This may require addressing memory banks so that they overlap on one board (an allowable setting for Processor Technology memory boards).

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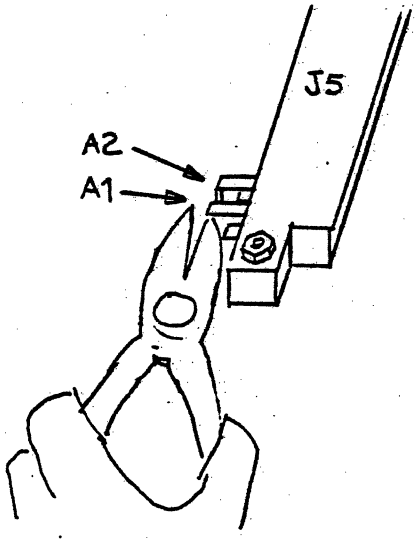
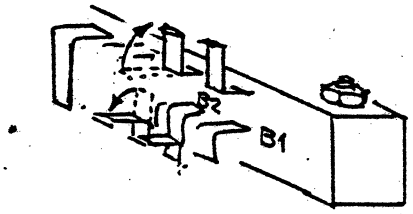
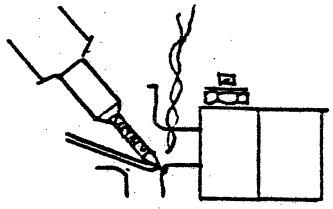
1. USING DIAGONAL CUTTERS, CUT PINS A1, A2 OF PERSONALITY MODULE CONNECTOR J5 SLIGHTLY BELOW THE BEND.



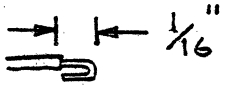


2. USING LONG-NOSE PLIERS, BEND UPPER STUBS OF PINS A1, A2 UP AND LOWER STUBS DOWN, THIS WILL EXPOSE PINS B1 AND B2.

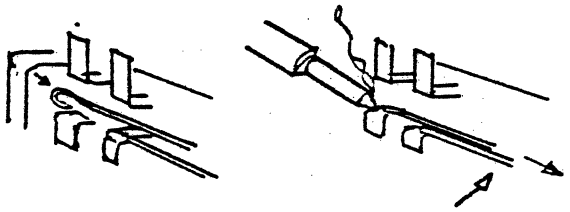
3. WITH A HOT SOLDERING IRON AND ROSIN CORE SOLDER MELT A SMALL COATING OF SOLDER ONTO PINS B1 AND B2



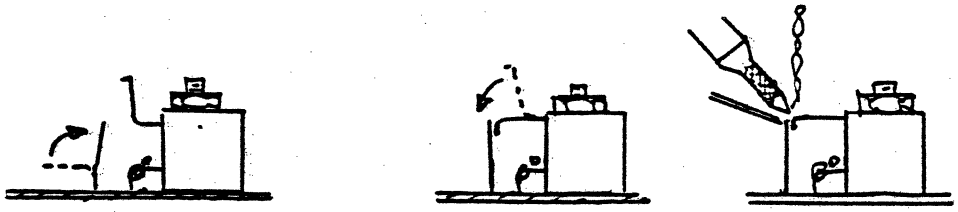
4. USING LONG-NOSE PLIERS BEND A HAIRPIN LOOP IN THE BARE ENDS OF THE 30-GAUGE WIRES SOLDERED TO THE 74LS136 CHIP. CUT OFF ANY EXCESS WIRE LENGTH SO THAT THE LOOP APPEARS AS SHOWN.



5. HOOK THE LOOP OF EITHER WIRE OVER PIN B1 AND SOLDER. HOOK THE LOOP OF THE OTHER WIRE OVER PIN B2 AND SOLDER.



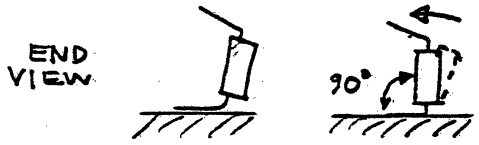
WIRES EMERGE TOWARD CENTER OF SOL PC BOARD



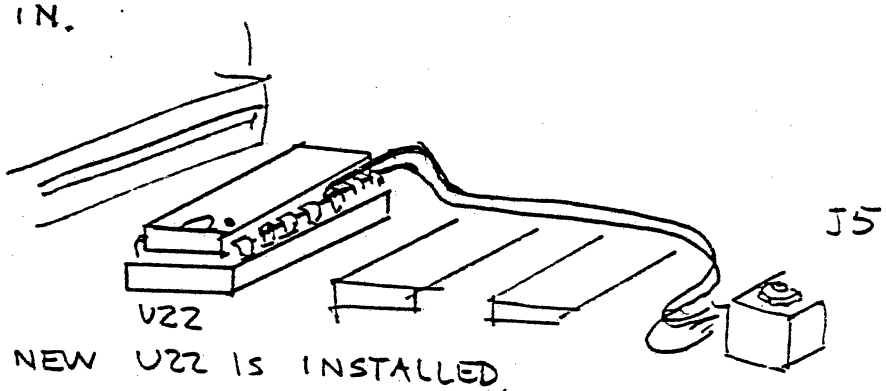
6. BEND THE LOWER STUB OF PINS A1 AND A2 BACK A FEW DEGREES PAST VERTICAL. BEND THE TOP STUBS BACK TO HORIZONTAL SO THAT THEY MAKE FIRM CONTACT WITH THE LOWER STUB. SOLDER THE TWO STUBS TOGETHER.

7. USING TONGS OR A GENTLE END-TO-END ROCKING MOTION WITH THE FINGERS, REMOVE U22 (74LS136) FROM ITS SOCKET (3 CHIPS BEHIND THE PERSONALITY MODULE).

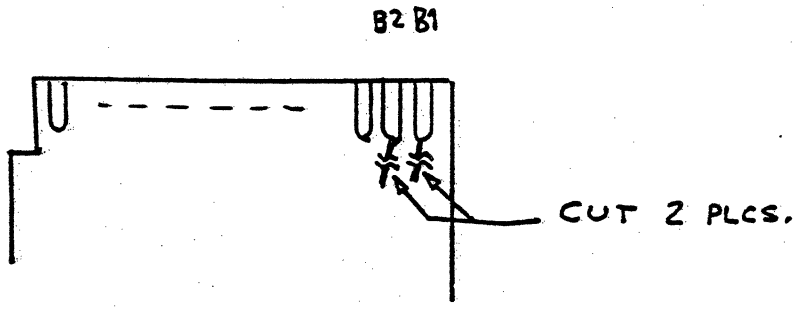
8. INSTALL 74LS136 NOW WIRED TO PERSONALITY MODULE IN SOCKET U22. YOU MAY NEED TO BEND THE ROWS OF PINS INTO MORE OF A



RIGHT ANGLE FIRST BY RESTING THE ROW OF PINS ON A FLAT SURFACE AND SLIGHTLY ROTATING THE CHIP BODY SO AS TO BEND THE PINS IN.



9, WHEN NEW U22 IS INSTALLED, DRESS THE WIRES CLOSE TO THE PC BOARD SO THAT S-100 BOARDS WILL NOT SNAG THEM.



BOTTOM VIEW

TO ALLOW USE OF OLD PERSONALITY MODULE CUT TRACES ON BOTTOM SIDE OF BOARD LEADING TO B1 AND B2 (RIGHT HAND 2 PINS)